

Running Head: EMERGENCY ACCESS TO GATED COMMUNITIES

Leading Community Risk Reduction

Emergency Access to Gated Communities

For

City of Palm Coast Emergency Responders

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Abstract

The City of Palm Coast has had trouble gaining access to gated communities. As a result this research was conducted to discover how other fire departments gain access to gated communities and develop a similar standard for Palm Coast emergency responders. Through a series of previously published articles descriptive information was collected. Data was also collected from Florida fire departments and sample ordinances were collected from California fire departments. As a result, the recommendation from this research was a gathering of information utilized to make an informed decision on a choice of technology and develop a standardized method of gaining access to gated communities in order to protect lives and property of citizens and visitors to Palm Coast.

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Introduction

The City of Palm Coast Fire Department will soon be doubling its size to accommodate for the growth of the city. Palm Coast is considered to be the fastest growing community in the State of Florida (Daytona News Journal 2005). Palm Coast is also the largest city in the fastest growing county in the United States, Flagler County (Daytona News Journal 2005).

The City of Palm Coast is at a crossroad where a number of developers are considering subdivisions that include exclusively gated communities. The problem is the City of Palm Coast Fire Department has had problems gaining access into existing gated communities during calls for emergency assistance. Solutions to the existing problem must be researched in order to deal with the increasing number of proposed gated communities.

The purpose of this research will be to determine how other fire departments are gaining access to gated communities in other cities and how the city of Palm Coast can develop a similar standard. The main focus of this paper will rely on the descriptive method of research based on a fact finding research methodology. This method will utilize the findings of others in order to consider similar standards for application as applied toward gated community access.

Research Questions

1. How many gated communities are presently within Palm Coast and how many gated communities are planned for Palm Coast in the years ahead?
2. What are the specific difficulties being encountered by PCFD in accessing

such communities?

3. How are other fire departments gaining access to gated communities?
4. What options are available for gaining access to gated communities?
5. What elements should be part of a program to improve access to gated communities in Palm Coast?

Background & Significance

The City of Palm Coast Fire Department will soon be doubling its size to accommodate for the growth of the city. Palm Coast is considered to be the fastest growing community in the State of Florida (Daytona News Journal 2005). Palm Coast is also the largest city in the fastest growing county in the United States, Flagler County (Daytona News Journal 2005).

The City of Palm Coast is at a crossroad where a number of developers are considering subdivisions that include exclusively gated communities. The problem is the City of Palm Coast Fire Department has had problems gaining access into existing gated communities during calls for emergency assistance. Solutions to the existing problem must be researched in order to deal with the increasing number of proposed gated communities.

According to (Real Estate abc, 2002) gated communities are popular nowadays to people from all walks of life. One reason is because there is no "through traffic." The gate puts a stop to cars zipping through using your local streets as a short cut. The neighborhood is safer for kids walking or riding their bikes to the neighbor's house, the playground, or to catch the school bus.

Gated communities can be safer from crime, too. Exactly how safe depends on whether there is a guard at the gate or not. Unguarded gates are relatively easy to get past for the enterprising criminal. We've all seen the movies where the police detective has to get into an apartment building and pushes all the buzzers until he gets buzzed in? Well, it's even easier than that. All you have to do is wait for a resident to drive in and follow them through. For the impatient individual, a gated community may be a poor choice. Whenever a serviceman makes a repair call or the pizza comes within the allotted thirty minutes, you will have to check in with the guard or buzz them in. On the strong side, gated communities normally exhibit a strong pride of ownership. Home values hold up very well.

This being said the problem within the city of Palm Coast falls into the guidelines promoted by the real estate executives. This has led to the access problem which causes delays to the citizens within these gated communities. The life hazard becomes greater due to increased response times and limited access. This problem must be mitigated and addressed when approving future communities.

In the past the city of Palm Coast fire department has dealt with each community on an individual basis. This has proved to be confusing and potentially costly. Some communities have offered the fire department gate codes for emergency access only to change them without notifying the fire department. Others have offered a Knox Key system which works well but not everyone has the key. These have been the leading causes which have led to this research.

These problems are not just related to the fire service. The emergency medical service has encountered these same problems as well as law enforcement. Good

communication among all these groups will be key to coming up with viable solutions. Fortunately law enforcement personnel in Palm Coast have computers in each of the patrol cars so dispatch can transmit gate codes via the network. Fire and EMS do not have computers at this time. For security law enforcement dispatchers will not transmit these codes via radio. As a result fire and EMS have had to wait for law enforcement to arrive in order to gain access into the community, a major increase in response time and potential life hazard risk.

Currently there are nine different gated communities within the city limits of Palm Coast. On average there are at least 2 gated communities proposed each month during the city of Palm Coast's development review committee. Although the city fire marshal is on the review board, he/she is not able to vote on issues yet comments can be made on the proposed project.

The problem of gaining access into gated communities within Palm Coast is on the forefront for immediate action. The comments made by the independent realty article by *Real Estate abc* should serve as a clear focus on where many citizens will be choosing to live. Thus the importance of this research and how this research will attempt to mitigate problems leading to a community risk reduction in Palm Coast.

Aside from the obvious problem of gaining access through a gate system, another problem such as secondary means of egress must be considered. For an entire gated community to evacuate from a single point can be potentially dangerous especially during a forest fire. Although the secondary means of egress has been addressed by the city of Palm Coast, the fact remains no consideration has been made toward a consistent process to gain access through gates during emergencies.

The results from this research will potentially prove to be useful for all kinds of gate access. Examples may include storage facilities, industrial parks, and utility compounds. When a solution to this problem has been arrived at the benefits to all emergency response organizations will be that of improved efficiency in terms of life safety, property preservation and community security.

Literature Review

The purpose of this literature review is to conduct research to see what material already exists concerning my topic and to see how this material can directly relate to my topic. Literature comes in many different forms including books, online data, interviews and personal observations. Various types of this data were used for my literature review.

In order to begin to answer my research questions I chose to review a little bit of current history concerning my topic of gated communities. This is researched to determine what factors lead to the popularity of these ever increasing gated communities in Palm Coast. This is followed by a look at various ways gated communities deal with emergency responders and finally what options are available for emergency responders in gaining access to these communities.

One of the more general articles concerning gated communities was written by Chris E. McGoey. The article was discovered at *crimedoctor.com*. According to (McGoey, 2006) more and more people want to reside in gated communities, because of this gated communities are being built at record rates. In the early 1970's there were approximately 2000 gated communities nationwide, in the early 2000's there were nearly 50,000 gated communities with more and more being built each year (McGoey, 2006). Where high crime is not an issue gates are added to communities provide the sense of

security and exclusiveness (McGoey, 2006). Where crime is high, gates in communities act as a barrier to keep criminals off the property and away from residents and are cheaper than hiring security guards (McGoey, 2006). This information answers to question of why these gated communities are popular and how this popularity is influencing the popularity in the Palm Coast area.

Another interesting article was written by Haya El Nasser from the *USA Today*. According to (Nasser, 2002) not only do people cherish gated communities for safety, but some search for the “sense of niceness.” In summary it appears that most people think of gated as security, some think of gated as exclusive but most appear to think of gated as privacy. The article also mentions that some developers are actually gating older communities in order to market these communities as “places where children can play in the streets just like in the old days” (Nasser, 2002).

This author looked upon these articles as an independent view as to why such gated communities are on the increase. Next this author looked at how these gated communities are providing access to emergency personnel and any problems associated with access. The first article discussed is one written by Sallie James from the *Sun Sentinel*. According to (James, 2003) Police and firefighters responding to emergencies in an upscale gated community of Grand Isle near Coral Springs Florida have been put on notice to lock the gates when they leave or don’t come back. This seems to be a rather drastic move by the Grand Isle community but this actually occurred. From the fire side, ambulances and fire trucks routinely leave gates unlocked so other rescue units can pass, cutting down on response time (James, 2003). From the community side, after the call is complete emergency personnel need to at some point reset the key box, leaving the gate

wide open invites thefts and vandalism (James, 2003). This situation can lead to a significant problem concerning public safety.

Currently within Palm Coast there are three ways to enter a gated property. The first way is by using a punch key access code. The second is by using a Knox key switch. The third way is by utilizing a siren activated device. The following are other ways of accessing gates which the city of Palm Coast has not utilized or was not aware of their existence.

According to the Knox Company website “Is your gate locking out first responders”? Since 1975, Knox has been manufacturing high security key boxes, key vaults, armored cabinets, key switches, padlocks, master key retention devices and locking fire department connection plugs and caps (Knox, 2006). This proven rapid entry system reduces response time, property damages and the liability for lost keys (Knox, 2006). More than 9,000 municipalities, military installations, and communities they serve depend on Knox products and services (Knox, 2006). The most common application for gate access is the Knox key switch. Knox electric override key switches are generally installed at the vehicle entrance to gated communities and apartment complexes (Knox, 2006). When the first engine arrives, a firefighter uses the Knox Master Key to turn the switch and open the gate (Knox, 2006). In summary, the fire department needs immediate access to gated communities when calls for help are received. Walls, gates, and fences do a great job of keeping people out but these physical barriers also delays help from first responders during emergencies.

Another option which is available for emergency responders is the Click2Enter Inc. device. Click2Enter does away with all of the cumbersome keys, access control

codes, and remote control actuators because every emergency response vehicle and responder carries the key: their mobile or portable radio transceiver (Click2Enter, 2006). Click2Enter was developed to provide public safety personnel or any authorized user immediate access to gated residences; communities; or any security control mechanism. Other authorized users can even use the Click2Enter, as long as they are programmed into its frequency bank and have a radio transceiver (Click2Enter, 2006). The Click2Enter-I combines the scanner/receiver technology with control technology to act as a radio controlled key to open access control devices (gates or security control mechanisms), thus allowing public safety agencies or any authorized users immediate access to deal with emergencies as they occur (Click2Enter, 2006). To activate the Click2Enter-I the operator must be proximate to the device, and using short transmission pulses of their radio transceiver (software enabled one or two pulse mode) is all that is required to initiate an instant activation/entry (Click2Enter, 2006). Click2Enter-I stores a running activation log, in memory, for operator recall (Click2Enter, 2006). The Click2Enter system allows any public safety agency or authorized users' access, as long as they are programmed into its memory (Click2Enter, 2006). Having the ability to program in multiple users answers the mutual aid problem that presently exists with other emergency access control products (Click2Enter, 2006).

Another device which was researched was the Siren Operated Sensor gate controller. This device is marketed by GTO/PRO gate systems. According GTO/PRO, the SOS-YDT version stands for YELP/DECIBEL/TIME. It's programmed to respond to emergency vehicle sirens' "YELP" and open the gate in 2.5 seconds (GTO/PRO, 2001). If the responder is not using the "YELP", yet the decibel level remains high for an

additional 2 seconds, the YDT will trigger the gate to open (GTO/PRO, 2001). This version will therefore respond to the "wail" or any consistent sound producing 4.5 seconds of high decibel (GTO/PRO, 2001). The SOS-YDT is proximity adjustable, and has switch able safety options built into the circuit board (GTO/PRO, 2001).

The Siren-Operated Sensor (SOS) is designed to respond swiftly to the "YELP" mode of all standard emergency vehicle sirens (GTO/PRO, 2001). A reminder decal is provided to be placed on each entry gate (GTO/PRO, 2001). Responders already own their siren thus the device represents public safety without spending public funds (GTO/PRO, 2001). At this writing (2001), the SOS is the nation's most widely used uniform emergency gate access (GTO/PRO, 2001).

In terms of fire related sources of material an article written by Tom Fieldstead from *Fire Chief Magazine* was reviewed. This article goes on to explain how Hilton Head Island S.C. dealt with responding to gated communities. As discussed earlier gated communities are designed to provide safety and security to the occupants but can also increase response times for police fire and medical personnel. In some cases this may be life threatening.

In terms of Hilton Head, most of the gated communities have just one gated access point and depending on the location of the call for help, the closest fire station may not be the quickest to be able to arrive at the address, adding precious minutes to the responding-unit arrival time (Fieldstead, 2005). The single point access gate is the most common type of gated community in Palm Coast.

To overcome the problem of single point access gates, an agreement with the individual communities to create one or more "emergency unit only" access roads with

gates around the perimeter of the development (Fieldstead, 2005). Within the City of Palm Coast the only secondary access roads to gated communities are for emergency egress only and not for emergency vehicle entry due to these roads being in a crude but stable condition. No consideration has been made thus far improving such roads for access to the developments.

The future is pointing us in the direction of an increased number of gated communities. This is based on the facts which have been discussed previously. Emergency personnel must consider the options for responding to such communities. The elimination of gates and fences does not seem viable at this time so a solution to keys, door openers, or bolt cutters must be considered (Fieldstead, 2005).

When the Hilton Head Island Fire Department first learned about the Click2Enter system and what it could do they felt this was the solution to eliminate some of the bottlenecks (Fieldstead, 2005). It maintains integrity by keeping records of all activation entries for security documentation purposes and easily attaches to a wide variety of access control gate systems (Fieldstead, 2005). The system attaches to the radio components of emergency responders and can be programmed to delay closure ensuring second and third due units do not experience delays gaining access through gates (Fieldstead, 2005).

Through further research on the Florida Fire Marshal and Inspectors Association (FFMIA) website a question concerning gated communities was located in a discussion group forum. The question raised in the forum was “How do other jurisdictions provide for emergency access to gated communities that are not staffed full time or not at all (FFMIA, 2006)?” rbutcher@tsfr.us (2006, July 25) responds:

Pinellas County has an ordinance for gated communities to where there has to be Knox or Supra access. This is county wide and all Police Fire EMS have keys.

rdowling@co.st-johns.fl.us (2006, July 25) responds:

We require a Knox Key switch for any gate that we must travel through.

rmells@cityofwinterpark.org (2006, July 25) responds:

It's is whatever the AHJ deems an approved device or system for access. For example, in the City of Winter Park we use the Click2Enter system. So, if a community or a property wishes to control access then they would be required to install an approved system.

TAnderson@cwgd.com (2006, July 26) responds:

The City of Winter Garden Fire Dept. requires Click-to-Enter and also requires a second device, i.e. keypad.

arffrat@aol.com (2006, July 25) responds:

Jacksonville Fire & Rescue Department requires the Knox Gate Key.

cato@esterofire.org (2006, July 25) responds:

We use the EVAC (Emergency Vehicle Access Control) transmitters and require all installations to add receivers to activate the gates.

starbuckdl@ci.gainesville.us.fl (2006, July 25) responds:

The City of Gainesville is requiring gated communities to install an Opticom System to allow for emergency access.

bdallas@winterspringsfl.org (2006, July 25) responds:

Here in Seminole County we utilize the "Knox Gate Key Switch". This has been done "countywide" since we operate under a "first response system".

We have even been somewhat successful in getting our school campus's to opt into the program. Here in Winter Springs, I also require Knox padlocks on any emergency access gates and even some BFD's that are not alarmed with tamper switches. We use the SOS [siren operated system] as a back-up.

bstanley@ci.ocoe.fl.us (2006, July 25) responds:

We use Opticom and Knox Key Secure as a backup. We have been using both for approx 2 yrs with no problems.

weshayes@polkfl.com (2006, July 26) responds:

Knox key switch here in Polk County. Doesn't matter if they have someone at the gate.

The results of the sampling from the above postings reveal a variety of options which were discussed in the previous literature. Since these postings do not maintain archives, The American Psychological Association Publication Manual (APA, 2002) suggests not including these postings in the reference section of this document. The lack of commonality in any jurisdiction suggests it must be a choice arrived from municipality preference as opposed to a technical decision. The conclusion obtained from review of this literature exposes a few certainties. Gated communities are increasing in popularity. The gates offer an added component to response times which affect life safety. There are a limited number of solutions to overcome the gate access issues. The choice of which system to utilize must be limited to preference technical application.

Procedures

In order to make this research project as objective as possible much of the material gathered was based on factual data versus any personal opinions. Whenever a

project has the potential to offer options for a solution it is easy to become trapped in a circle of opinions. To avoid this trap this author chose not only to review published material but go the extra step to discover what factual situations have occurred to influence any decision. These facts are what this research paper is based on.

In order to replicate this research a basic approach to gather the pertinent information had to be looked into. Determining the approach to such a project was challenging with respect to keeping on the proper track. A review of the research questions was the first step. Gated communities as a whole are a tremendous topic that carries many avenues for research. When dealing with the descriptive method of research gated communities must be aligned with the purpose statement of this project as well as the pertinent research questions.

Once the questions have been deciphered, a broad look into what facts are available was the next step. The scope was not limited to the fire service. This projected attempts to be as objective as possible therefore considering all aspects of gated community access. Since Palm Coast has a large compliment of these communities a stop at the city fire marshal's office was a beginning point.

An interview took place with Jeff Pattee the City of Palm Coast Fire Marshal on July 17, 2006. Fire Marshal Pattee is personally known to this author through dealings associated with fire inspections and fire investigations. My first query was to determine what was on file as far as gated communities were concerned. This author explained the scope of the project to Pattee and Pattee offered advice such as looking into a web forum.

The web forum Pattee suggested was that of the Florida Fire Marshals and Inspectors Association (FFMIA) through a Yahoo.com mail group. To replicate the

research a posting through Pattee's domain name of volcanus76@yahoo.com has to be used. This domain went state wide within Florida to all those who participate in this mail group. This author is not an expert on computer research so assistance of this posting was offered by Pattee. The question posed was; "How do other jurisdictions provide for emergency access to gated communities that are not staffed full time or not at all? The data from these postings are used to determine pros and cons of available equipment and procedures.

Equipment available to be utilized for emergency responders can be from a simple key to a complex radio frequency. The facts have to be looked at to see if any one or more or all can be appropriately utilized to answer the questions to this research project. In order to gain this information a look into each option took place by gathering information on each product. Once information is the pros and cons of each product had to be scrutinized for the best options.

As with all research there are limitations applied to this research. The information collected was based on emergency access rather than community or resident access. This is mentioned for the fact other options for non emergency personnel may be available but not researched. The facts gathered from the web board were facts gathered only within the State of Florida due to the web board's sponsorship. Although limited to Florida, this author concluded, based on results, the problems can be applied to other states as well. The results of this research will show how other fire departments gain access to gated communities and which devices can be utilized by the Palm Coast fire department in order to mitigate the problem of gaining emergency access to gated communities.

Results

The City of Palm Coast Fire Department will soon be doubling its size to accommodate for the growth of the city. Palm Coast is considered to be the fastest growing community in the State of Florida (Daytona News Journal 2005). Palm Coast is also the largest city in the fastest growing county in the United States, Flagler County (Daytona News Journal 2005).

The City of Palm Coast is at a crossroad where a number of developers are considering subdivisions that include exclusively gated communities. According to Pattee (personal communication, 2006) the City of Palm Coast has a total of 21 different gates facilities. The term facilities since these gated areas are not limited to communities. There are access gates to storage facilities as well as access gates to schools and businesses throughout Palm Coast. According to Pattee (personal communication, July 17, 2006) there are currently 11 gates communities in Palm Coast. These communities have either a code access, Knox key access, or siren activated access. Pattee also states (personal communication, July 17, 2006) there are currently 5 additional gated projects up for review and the list appears to be increasing.

This appears to be coinciding with the following: According to (Real Estate abc, 2002) gated communities are popular nowadays to people from all walks of life. One reason is because there is no "through traffic." The gate puts a stop to cars zipping through using your local streets as a short cut. The neighborhood is safer for kids walking or riding their bikes to the neighbor's house, the playground, or to catch the school bus.

With no common solution for gaining access to these gated communities an engine company or rescue unit must rely on a type of master list or “cheat sheet” for researching proper access requirements. The Flagler County Sheriff’s Department has lap top computers in each car so the dispatch center can relay security codes via computer terminal. This eliminates the need for a master list. At this time only the Sheriff’s office has lap top computers. According to Pattee there has been 4 times where the fire department could not gain entry through a gate due to a change in access code with no code update on file. (personal communication, July 17, 2006) To help alleviate this problem the inspection division requests quarterly updates from those facilities where coded access is the only means of access.

The Knox key access has improved the means of access however to supply a key to each unit can be costly since the same Knox key is also used for secured businesses throughout Palm Coast. This has also been a problem with first due mutual aid companies. These engine companies do not have Palm Coast Knox keys on the apparatus again due to security concerns. A suggestion to wire the Knox key boxes to an alarm has proved to be a nuisance since the local alarm companies kept dispatching a sheriff unit prior to verifying the alarm. This occurred frequently during annual business inspections.

The final problem the Palm Coast Fire Department was experiencing was with gates equipped with a siren activated gate. There were a few occasions in which the responding engine company was not equipped with an adequate siren. The siren activated gates work off the principle of using a yelp siren for a given amount of seconds. Many of the Palm Coast reserve units do not have an electric siren; they only utilize the mechanical “Q” siren. There was also an instance where the electronic siren on a newer

truck was broken. All newer models have both an electronic siren as well the mechanical type for this very reason. A final problem experienced with the siren activated gates was the fact that the neighborhood would be disturbed by a siren day or night. This accounted for some citizen complaints.

In terms of how other fire departments are gaining access to gated communities this author discovered options which were unknown prior to this research. It was evident through the research that other fire departments gain access in similar ways yet there seems to be no standard. Although other options were discovered such as the Opticon system and the Click 2 enter system a formal discussion concerning which was the most often used or most often preferred was not discovered in this research.

While it is now a known fact that more and more gated communities are on the horizon, how each fire and emergency department will deal with this situation remains an individual choice. Each representative who posted a response on the web board did not give an opinion on pros and cons of each.

The most common types of gated community emergency access devices are key pad entry, Knox key entry, siren activated entry, opticon entry, and click 2 enter entry systems. This was based on feedback from the Florida Fire Marshal and Inspectors Association (FFMIA) website web board. This being said the following will be brief details on how each option works.

The key pad entry system relies on a property owner entering a special code into a control panel where if keyed in by an emergency responder the gate will open and let the unit into the community. The key code is easily changed for security purposes. The problem with this system is that the gate will not remain open for additional units and

each key code must be remembered or entered into a “cheat sheet”. This system is quite common in Palm Coast with over 15 facilities utilizing this system according to Pattee (personal communication, July 16, 2006).

The Knox key system is quite popular and preferred by Pattee (personal communication, July 17, 2006). According to the Knox Company website “Is your gate locking out first responders”? Since 1975, Knox has been manufacturing high security key boxes, key vaults, armored cabinets, key switches, padlocks, master key retention devices and locking fire department connection plugs and caps (Knox, 2006). This proven rapid entry system reduces response time, property damages and the liability for lost keys (Knox, 2006). More than 9,000 municipalities, military installations, and communities they serve depend on Knox products and services (Knox, 2006). The most common application for gate access is the Knox key switch. Knox electric override key switches are generally installed at the vehicle entrance to gated communities and apartment complexes (Knox, 2006). When the first engine arrives, a firefighter uses the Knox Master Key to turn the switch and open the gate (Knox, 2006). Currently there are 4 gated facilities using this type of entry system. The problem being the security issues involving the keys and not all mutual aid companies will have the key. Problems associated with this system can be from the fire side, ambulances and fire trucks routinely leave gates unlocked so other rescue units can pass, cutting down on response time (James, 2003). From the community side, after the call is complete emergency personnel need to at some point reset the key box, leaving the gate wide open invites thefts and vandalism (James, 2003). This situation can lead to a significant problem concerning public safety.

The siren activated entry system works on the principle of using a yelp siren for a given amount of seconds to activate a sensor which opens the gate. So long as each unit has a “Yelp” mode on their electronic siren the gate will open. A problem will arise if the units do not have electronic sirens or the community may be disturbed every time emergency access is gained day or night.

Currently the City of Palm Coast does not have the 3M Opticom system attached to traffic signals within the city. The city is looking into this option for the near future. The 3M Opticom system can be adapted to open gates for emergency access. The 3M Opticom system works on the principle that an infrared strobe can activate a sensor in the same way it activates traffic signals. Currently there are no gates in the City of Palm Coast wired for this option. This system is utilized by some fire departments throughout Florida based on the web board from the Florida Fire Marshal and Inspectors Association (FFMIA).

The additional option for entering gated communities is that of the Click2Enter Inc. device. Click2Enter does away with all of the cumbersome keys, access control codes, and remote control actuators because every emergency response vehicle and responder carries the key: their mobile or portable radio transceiver (Click2Enter, 2006). Click2Enter was developed to provide public safety personnel or any authorized user immediate access to gated residences; communities; or any security control mechanism. Other authorized users can even use the Click2Enter, as long as they are programmed into its frequency bank and have a radio transceiver (Click2Enter, 2006). The Click2Enter-I combines the scanner/receiver technology with control technology to act as a radio controlled key to open access control devices (gates or security control

mechanisms), thus allowing public safety agencies or any authorized users immediate access to deal with emergencies as they occur (Click2Enter, 2006). To activate the Click2Enter-I the operator must be proximate to the device, and using short transmission pulses of their radio transceiver (software enabled one or two pulse mode) is all that is required to initiate an instant activation/entry (Click2Enter, 2006).

In order to choose the best option for the City of Palm Coast emergency responders, several elements should be looked at to improve access to gated communities. The number of existing and potential facilities needs to be addressed. Once the numbers are mitigated, cost needs to be considered. The cost of retrofitting existing gates as well as new installations should be compared. The leading edge of technology should be considered since Palm Coast is a fairly new city its growth has been significant (Daytona News Journal 2005). Other factors should include mutual aid responders and the need for secondary access in case primary access roads are inhibited.

According to Pattee (personal communication, July 17, 2006) the only way to gain compliance would be to place a standard for gate access in the development code so that a certificate of occupancy would be withheld pending the provision of the installation of proper gate access.

Discussion

In discussing how other fire departments deal with access to gated communities versus the problems the City of Palm Coast is experiencing are quite similar but also different. Palm Coast is at a crossroad since we are the fastest growing community in Florida (Daytona News Journal 2005). The problems the fire department is experiencing must be overcome before a life is jeopardized. This may seem a bit harsh but according

to (James, 2003) we cannot afford to be placed on notice of being locked out if proper procedures are not followed. The fact that Palm Coast does not have a standard practice for gaining entry to gated communities is a critical concern among the officers of the fire department. The information gathered from both responders as well as manufacturers of various gate access components has made this a successful venture.

According to (Real Estate abc, 2002) gated communities are popular nowadays to people from all walks of life. According to (McGoey, 2006) more and more people want to reside in gated communities, because of this gated communities are being built at record rates. In the early 1970's there were approximately 2000 gated communities nationwide, in the early 2000's there were nearly 50,000 gated communities with more and more being built each year (McGoey, 2006). Where high crime is not an issue gates are added to communities provide the sense of security and exclusiveness (McGoey, 2006). Where crime is high, gates in communities act as a barrier to keep criminals off the property and away from residents and are cheaper than hiring security guards (McGoey, 2006). This information answers to question of why these gated communities are popular and how this popularity is influencing the popularity in the Palm Coast area. This makes Palm Coast no different from any other community. Realtors are promoting more of these communities and developers are following suit. To address access to these communities, fire departments must be proactive and mitigate these communities prior to construction. This can occur at development review.

While it is now a known fact that more and more gated communities are on the horizon, how each fire and emergency department will deal with this situation remains an individual choice. Each representative who posted a response on the web board did not

give an opinion on pros and cons of each. According to Pattee (personal communication, July 17, 2006) the only way to gain compliance would be to place a standard for gate access in the development code so that a certificate of occupancy would be withheld pending the provision of the installation of proper gate access. Based on the findings of this study this author interpreted the following result from this study:

The City of Palm Coast is no different than any other city when it comes to the need for gaining access to a community or facility during an emergency. The needs are the same in terms of saving lives and property. How we achieve this goal is through research similar to that mentioned in this report as to choose the best option for the city. This option needs to be placed in a citywide campaign for standardization of all gates impeding emergency access. These gates are not limited to communities but can also be applied to those gates at schools, storage facilities and industrial parks.

The implications for not answering the research questions mentioned in this report can lead to lives lost and tremendous property damage. The answers to all research questions must be mitigated at a department level and placed on agendas in order to consider for ordinance in development codes. These findings are not limited to affecting fire service but to those who serve the public in any emergency situation including but not limited to police, security, emergency medical service and forestry departments. Financial and long term impact of these gated facilities must also be considered in whichever option is selected. The fact that cost is relevant to developers and the taxpayers must not be overlooked. Replacement of such equipment and the inspection and testing needs to be placed into codes as well. If such option should fail to operate due to power loss what alternatives do responders have for gaining access? In summary,

what appears to be a simple problem of gaining access, can lead to a tremendous impact both technically and financially.

Recommendations

Based on the results which were found as a result of this research the City of Palm Coast will first have to choose which type of entry system should be used to gain access to gated facilities in order to meet the needs of emergency responders. Once the system of preference is chosen a financial commitment should be sought from both existing and future developments.

We have already determined that the City of Palm Coast is considered to be one of the fastest growing communities in the State of Florida (Daytona News Journal 2005). This being the case we have determined that there has been a trend of increasing numbers of gated communities being sought by potential residents (Real Estate abc, 2002). This is confirmed by the number of sub division plans which are subject to review by the City of Palm Coast fire marshal Jeff Pattee (personal communication, July 17, 2006). Most of these plans include at least one security gate which must be accessible by emergency responders.

The fact still remains that the City of Palm Coast does not have a standard in place to gain access to gated communities. As a result there are several options to choose from to accomplish this goal and reduce the problem of access for emergency responders. This research has uncovered options which are currently being utilized within the City of Palm Coast as well as others which are not currently being utilized. The pros and cons of those systems not being utilized were researched and in fact appear to be better alternatives.

The recommendation from this research paper will be to suggest the Click2Enter system as a system which should be pursued as the required system for both existing and new gate access within the City of Palm Coast. Click2Enter does away with all of the cumbersome keys, access control codes, and remote control actuators because every emergency response vehicle and responder carries the key: their mobile or portable radio transceiver (Click2Enter, 2006). Click2Enter was developed to provide public safety personnel or any authorized user immediate access to gated residences; communities; or any security control mechanism. Other authorized users can even use the Click2Enter, as long as they are programmed into its frequency bank and have a radio transceiver (Click2Enter, 2006).

The cost of such a system will have to be determined in order to answer appropriate questions by the gate owners/operators. The price is difficult to assess at this point due to each system being customized designed for customer needs. Click2Enter does point out that the only major costs of this system are the programming of receivers and the receivers themselves (Click2Enter, 2006). Each system is customized designed for each customer so this researcher was unable to get price figures from the distributors. There are however 18 different Click2Enter dealers throughout the United States with at least from Florida. This is extremely important in a program such as this in order to offer customers choice and price comparison (Click2Enter, 2006).

A major problem which has exists in the City of Palm Coast is that of mutual aid companies responding into the City and their access to gated facilities. The Click2Enter system has the potential to eliminate this problem since all emergency responders will be operating on the same 800 trunk radio system. The Click2Enter system is a sensible

choice which can eliminate the security concerns afforded by the distribution and use of Knox keys.

A gate access system for emergency responders is a relatively simple choice. In order to promote such a system the system should be part of either an ordinance or development code. There are many municipalities which already have such ordinances and development codes already in place (see Appendix A for 1 complete example). A retrofit program would also have to be instituted if the standardization goal is to be met. This retrofit program will currently deal with over 22 different facilities if the program were to be successful (see Appendix B for 1 complete example).

In conclusion, the City of Palm Coast has to start today in order to plan for the future. By making informed decisions between deciding on a standard gate access system for emergency responders will be a key part. Other researchers may agree or disagree with the findings contained in this report. This author respects all opinions. This is the reason why this author chose the descriptive approach to this research. The technology in the electronics field is constantly changing. Choosing a system which is adaptable to as many responders as possible is a key point to saving lives and property. The ultimate goal of this research has been to assist emergency responders with gaining access to gated communities in a more efficient manner to save lives and property of those who reside within the City of Palm Coast.

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Appendix A

Sample of the Fairfield California Standard for Access Gates.

FAIRFIELD FIRE DEPARTMENT

STANDARD 95-44

ACCESS GATES

AUTHORITY: Chapter 8, Section 8.1 City Ordinance, California Fire Code (C.F.C.), and Section 101.4.

PERMIT REQUIRED: To design and install any secured access gate system.

FEE: _____

PLAN SUBMITTALS:

Plans shall be submitted to the Prevention Bureau and shall include the following details:

1. A site plan, drawn to scale, indicating
 - a. Property lines
 - b. Building footprints
 - c. Proposed fence, pedestrian gates, vehicular gates
 - d. Proposed location of Knox key switch / Knox box
 - e. Physical address
 - f. California contractors license number, company name, address, and telephone number
2. Product specifications shall be provided which include:
 - a. Method of operation
 - b. Telephone operation sequence (if applicable)

DEFINITIONS:

APPROVED refers to approval by the fire chief as the result of investigation and tests conducted by the fire chief or by reason of accepted principles or tests by national authorities, or technical or scientific organizations.

AUTHORITY HAVING JURISDICTION is any state, county, city, town, district, or any other political subdivision adopting this code for use in its jurisdictional area.

PEDESTRIAN GATE is a gate used exclusively as pedestrian entry and egress.

SHALL indicates a mandatory requirement.

SHOULD indicates a recommendation that is advised but not required.

STANDARD means the rules and regulations contained in the Fairfield Fire Prevention Standards and are designed to provide specific guidelines to the California Fire Code.

VEHICULAR GATE is a gate intended for vehicle passage.

RESIDENTIAL PROPERTIES includes single and multi-family dwellings, such as apartment and condominiums.

GATED COMMUNITY DEVELOPMENT is a community that may consist of single or multi-family dwellings, or other accessory uses, that are enclosed within a geographical area by restrictive gates.

Sec. 902.2.4 **Obstruction and Control of Fire Apparatus Access.**

Sec.902.2.4.1 **General.** The required width of a fire apparatus access road shall not be obstructed in any manner, including parking of vehicles. Minimum required widths and clearances established under Section 902.2.2.1 shall be maintained at all times.

Entrances to roads, trails or other access ways that have been closed with gates and barriers in accordance with Section 902.2.4.2 shall not be obstructed by parked vehicles.

The following standard shall be used when installing gates that will obstruct the access of emergency vehicles or personnel into commercial or residential areas.

Sec.902.2.4.2 **Closure of access ways.** The chief is authorized to require the installation and maintenance of gates or other approved barricades across roads, trails or other access ways, not including public streets, alleys or highways.

When required, gates and barricades shall be secured in an approved manner. Roads, trails and other access ways that have been closed and obstructed in the manner prescribed by Section 902.2.4.2 shall not be trespassed upon or used unless authorized by the owner and the chief. The minimum width for any gate shall be 12' 0" and may be required to be of a greater width.

Exception: Public officers acting within their scope of duty.

Locks, gates, doors, barricades, chains, enclosures, signs, tags or seals which have been installed by the fire department or by its order or under its control shall not be removed, unlocked, destroyed, tampered with or otherwise molested in any manner.

Exception: When authorized by the chief or performed by public officers acting within their scope of duty.

Prior to the installation of any gate or other device that will obstruct the access of emergency vehicles or emergency personnel, to commercial, residential areas, or open space\wildland areas, plans and specifications shall be submitted to the Fairfield Fire Department, Fairfield Planning Department, and the Fairfield Police Department for permit issuance and plan approval.

If gates are not guarded on a 24-hour basis, the following guidelines shall be followed:

Commercial Properties

1. All gates required to be opened electrically shall be key operated and shall be operated by a Knox key switch.
2. A lock box shall be installed to allow emergency personnel access through pedestrian gates. Emergency personnel must be able to access manual backup controls.
3. All gate(s) must be provided with an approved means to open it during power failures.
4. If gate is manual and secured with a chain and lock, specifications will be decided during plan review.
5. If there are two or more gates in any single development, all gates must be operated in the same fashion.

Gated Community Developments/Residential Properties

1. The Fairfield Fire Department Fire Prevention Bureau shall determine if gates are to be manual or electrical in operation. All electrical vehicular gates shall be provided with access control using a Radio Transceiver for public safety and authorized users. This transceiver will allow emergency vehicles to open the gate from a mobile or portable radio. The Fairfield Fire Department currently uses the “**Click2Enter**” company to provide this device.

2. Gate activation shall not be altered or placed out of service without prior notification to the Fire Department Prevention Bureau and Police Dispatch. Where prior approved phone activation gates become worn or inoperative, the approved radio transceiver shall replace them.
3. If there are two or more gates in any single development, all gates must be operated in the same fashion.
4. All electrical vehicular gates must be provided with a fail-open device to open it during power failures. These devices usually restore the gate(s) to the closed position after the power is restored. Any residential properties consisting of 15 or less dwelling units are not subject to this requirement.
5. A Knox dual key activating switch or padlock shall be installed to allow emergency personnel access through vehicular gates.
6. An approved Knox dual key lock box shall be installed to allow emergency personnel access through all pedestrian gates.
7. The maintenance and upkeep of all gates, including the power and phone utility to operate the gates, is the responsibility of the property owner, homeowners' association, or occupants of a gated community. All gates must be serviced on a bi-annual basis.

*

It is a violation of the California Fire Code and a citable offense if any tampering with fire-protection equipment and site barriers occurs.

NOTE: The above is a summary and may not include all the requirements for your occupancy.

Appendix B

Sample of Oxnard California Gate Access Retrofit Program

CITY COUNCIL OF THE CITY OF OXNARD

ORDINANCE NO. 2666

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF OXNARD AMENDING SECTION 13-2 OF THE OXNARD CITY CODE BY ADDING SECTION 902.5 TO THE 2001 CALIFORNIA FIRE CODE RELATING TO ELECTRONIC OR ELECTRIC ACCESS GATES

The City Council of the City of Oxnard makes the following findings:

1. The City has previously adopted the 2001 California Fire Code by reference;
2. There are numerous electronic and electric access gates in business, commercial and residential portions of the City;
3. Emergency vehicles and personnel have difficulty promptly entering the areas closed with such gates when confronted with threats to public health, safety, and welfare; and
4. The cost to retrofit such a gate in accordance with the requirements of this ordinance is approximately \$1,500.

Now, therefore, the City Council of the City of Oxnard does ordain as follows:

Part 1. Section 13-2 of the Oxnard City Code is hereby amended by adding new subsection (c) to read as follows:

“(c) Section 902.5: Section 902.5 is added to the 2001 California Fire Code to read as follows:

“902.5 Electronic and Electric Access Gates. When access to or within a structure or area is impeded by an electronically or electrically secured opening or gate, such electronically or electrically secured opening or gate shall be constructed and maintained in accordance with plans approved by the chief. The chief shall not approve such plans unless the plans allow emergency vehicles and emergency personnel to open such electronically or electrically secured opening or gate by city approved radio equipment used by such emergency vehicles or personnel.

“On or before August 1, 2006, all existing electronically or electrically secured openings or gates that impede access to a structure or area shall either be (a) removed, or (b) constructed and maintained in accordance with plans approved by the chief.

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"For the purposes of this section 902.5, 'opening' shall be limited to an exterior door for a commercial or industrial building or a door on a commercial, industrial, or residential property that limits access to a common area that is an accessway to more than one commercial, industrial, or residential occupancy."

Part 2. The previously existing subsections 13-2 (c), (d), and (e) are redesignated as subsections (d), (e), and (f) respectively.

Part 3. The City Council, after due consideration, hereby finds and determines that all the amendments, deletions, and additions to the 2001 California Fire Code are due to the following:

Climatic - The City experiences periods of high temperatures accompanied by low humidity and high winds each year.

Geological - The City is located in an area with expansive soils, high groundwater table, and ocean frontage.

Topographical - The City has flat land and waterfront developments that require special drainage and coastal precautions.

The City Council further finds that the above addition is necessary to best serve the public health and welfare. The City Council further finds and determines that the addition is also required for the reasons set forth in the Index and Summary to Model Codes and Amendments, which is incorporated herein by this reference and attached as Exhibit A to Ordinance No. 2610.

Part 4. Within 15 days after passage, the City Clerk shall cause this ordinance to be published one time in a newspaper of general circulation within the city. Ordinance No. 2666 was first read on July 20, 2004 and finally adopted on July 27, 2004 to become effective 30 days thereafter.

AYES: Councilmembers Lopez, Maulhardt, Pinkard, Zaragoza and Herrera.

NOES: None.

ABSENT: None.


Dr. Manuel M. Lopez, Mayor

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